subparts C and D of this part. Any person who owns, controls, rents, leases or operates a new powerplant that is subject to the prohibition may be subject to sanctions provided by the Act or these regulations.

[54 FR 52893, Dec. 22, 1989]

§ 503.2 Prohibition.

Section 201 of the Act prohibits, unless an exemption has been granted under subpart C or D of this part, any new electric powerplant from being constructed or operated as a baseload powerplant without the capability to use coal or another alternate fuel as a primary energy source.

[54 FR 52893, Dec. 22, 1989]

§ 503.3 [Reserved]

Subpart B—General Requirements for Exemptions

§ 503.4 Purpose and scope.

This subpart establishes the general requirements necessary to qualify for either a temporary or permanent exemption under this part and sets out the methodology for calculating the cost of using an alternate fuel and the cost of using imported petroleum.

§ 503.5 Contents of petition.

Before OFE will accept a petition for either a temporary or permanent exemption under this part, the petition must include all of the evidence and information required in this part and part 501 of this chapter.

§ 503.6 Cost calculations for new powerplants and installations.

(a) *General.* (1) This calculation compares the cost of using alternate fuel to the cost of using imported petroleum. It must be performed for each alternate fuel and/or alternate site that the petitioner is required to examine.

(2) The cost of using an alternate fuel as a primary energy source will be deemed to substantially exceed the cost of using imported petroleum if the difference between the cost of using alternate fuel and the cost of using imported oil is greater than zero.

(3) There are two comparative cost calculations—a general cost test and a special cost test. Both take into consideration cash outlays for capital investments, annual expenses, and the effect of depreciation and taxes on cash flow. To demonstrate eligibility for a permanent exemption, a petitioner must use the procedures specified in the general cost test (paragraph (b) of this section). To demonstrate eligibility for a temporary exemption, the petitioner may apply the procedures specified in either the general cost test or the special cost test (paragraph (c) of this section).

(b) *Cost calculation—general cost test.* (1) A petitioner may be eligible for a permanent exemption if he can demonstrate that the cost of using an alternate fuel from the first year of operation substantially exceeds the cost of using imported petroleum. Unless the best practicable cost estimates as prescribed below will not materially change during the first ten years of operation of the unit (given the best information available at the time the petition is filed), the petitioner must also demonstrate that the cost of using an alternate fuel beginning at any time within the first ten years of operation and using imported petroleum or natural gas until such time (*i.e.*, delayed use of alternate fuel) would substantially exceed the cost of using only imported petroleum.

(2) The petitioner would only be eligible for a temporary exemption if the computed costs of delayed alternate fuel use, commencing at the start of the second through eleventh years of operation, do not always substantially exceed the cost of using only imported petroleum. The length of the temporary exemption would be the minimum period from the start of operation in which the cost of using alternate fuel substantially exceeds the cost of using imported petroleum.

(3) To conduct the general cost test, calculate the difference (DELTA) between the cost of using an alternate fuel (COST(ALTERNATE)) and the cost of using imported petroleum (COST(OIL)) using Equations 1 through 3 below and the comparison procedures in paragraph (b)(5) of this section.

EQ 1 DELTA = COST (ALTERNATE) - COST (OIL)

where COST(ALTERNATE) and COST(OIL) are determined by:

$$\text{EQ 2} \qquad \text{COST} = I + \sum_{i=1}^{N} \frac{(OM_i + FL_i)(1-t_i)}{(1+k)^i}$$

and I (capital investment) is:

$$\text{EQ 3} \qquad I = \sum_{i=-g}^{N} \frac{I_i - ITC_i - S_i - t_i(DPR_i)\left(\frac{IX_e}{IX_i}\right)}{(1+k)^i}$$

(4) The terms in Equations 2 and 3 are defined as follows:

i=Year. i is a specified year either before year 0 or after year 0. Year 0 is the year before the unit becomes operational. For example, in the third year before the unit becomes operational, i would equal −2, and in the third year following commencement of operations of the unit, i would equal +3. Years are represented by 52 week periods prior to or following the date on which the unit becomes operational. Outlays before the unit becomes operational are future valued to the year before the unit becomes operational (year 0), and outlays after the unit becomes operational are present valued to the year before the unit becomes operational. Year 0 must be the same for the units being compared.

g=The number of years prior to the year before the unit becomes operational (year 0) that (1) a cash outlay is first made for capital investments, or (2) an investment tax credit is first used—whichever occurs first.

N=The useful life of the unit (see paragraph (d)(5) of this section).

I_i=Yearly cash outlay (in dollars) from the year outlays first occur to the last year of the unit's useful life for capital investments. (See paragraph (d)(2) of this section for the items that must be included.)

OM_i=Annual cash outlay in year i (in dollars) for all operations and maintenance expenses except fuel (*i.e.*, all non-capital and non-fuel cash outlays caused by putting the capital investments (I) into service). This may include labor, materials, insurance, taxes (except income taxes), etc. (See paragraph (d)(3) of this section.)

S_i=Salvage value of capital investment (in dollars) in year i.

FL_i=Annual cash outlay for delivered fuel expenses (in dollars) in year i. (See paragraph (d)(3) of this section for FL_i calculation instructions and appendix II of these regulations for the procedures to determine fuel price.)

k=The discount rate expressed as a fraction (see paragraph (d)(4) of this section).

ITC_i=Federal investment tax credit used in year i resulting from capital investments (see paragraph (d)(6) of this section).

DPR_i=Depreciation in year i resulting from capital investments (see paragraph (d)(6) of this section).

t_i=Marginal income tax rate in year i (see paragraph (d)(6) of this section).

IX_i=Inflation index value for year i (see appendix II to part 504 for method of computation).

IX_e=Inflation index value for the year e, the year before the asset is placed in service.

(5) The step-by-step procedure that follows shows the comparison that the petitioner must make.

(i) Compute the cost of using an alternate fuel (COST(ALTERNATE)) unit throughout the useful life of the unit using Equations 2 and 3.

(ii) Compute the cost of using oil or natural gas (COST(OIL)) throughout the useful life of the unit using Equations 2 and 3.

(iii) Using Equation 1, compute the difference (DELTA) between COST (ALTERNATE) and COST (OIL). If the difference (DELTA) is less than or equal to zero, a petitioner is not eligible for a permanent or temporary exemption using the general cost test and need not complete the remainder of the general cost test calculation. However, he still may be eligible for a temporary exemption using the special cost test (paragraph (c) of this section). If the difference (DELTA) is greater than zero and if the best practicable cost estimates will not materially change during the first ten years of operation (given the best information available at the time the petition is filed), the petitioner has completed the test and is eligible for a permanent exemption. However, if the best practicable cost estimate will materially change during the first ten years, the petitioner must complete the remainder of the general cost test—the delayed use calculations which follow.

(iv) Recompute COST (ALTERNATE) with Equations 2 and 3, assuming that an alternate fuel is not used as the primary energy source until the start of the second year of operation and that imported petroleum or natural gas is used for the first year of operation. All cash outlays should reflect postponed use of alternate fuel.

(v) Successively recompute COST (ALTERNATE) with Equations 2 and 3, assuming that the alternate fuel use is postponed until the start of the third year, fourth year, and so on, through the beginning of the eleventh year of operation (with imported petroleum or natural gas used in the years preceding alternate fuel use).

(vi) Compute the difference (DELTA) between each of the ten COST(ALTERNATE)s calculated in paragraph (b)(5) (iv) and (v) of this section and the COST(OIL) calculated in paragraph (b)(5)(ii) of this section.

(vii) If *all* the DELTAs computed in paragraph (b)(5) (iii) and (vi) of this section are greater than zero, the petitioner is eligible for a permanent exemption. If one or more of the DELTAs is less than or equal to zero, he is eligible for a temporary exemption for the period beginning at the start of the first year of operation and terminating at the beginning of the first year in which a DELTA is zero or less.

(c) *Cost calculations—special cost test.* (1) A petitioner may be eligible for a temporary exemption if he demonstrates that the cost of using an alternate fuel will substantially exceed the cost of using imported petroleum or (natural gas) over the period of the proposed exemption. The period of the proposed temporary exemption may not exceed ten years.

The petitioner must demonstrate that the cost of using an alternate fuel substantially exceeds the cost of using imported petroleum for the first year of operation, the first two years of operation, and so forth, through the period of the proposed exemption. OFE will limit the duration of a temporary exemption to the shortest time possible.

(2) To conduct the test, calculate the difference (DELTA) between the cost of using an alternate fuel (COST (ALTERNATE)) and the cost of using imported petroleum (COST (OIL)) using Equations 4 and 5 below, Equation 3 (paragraph (b)(3) of this section), and the comparison procedures in paragraph (c)(4) of this section.

EQ 4 DELTA = COST (ALTERNATE) - COST (OIL)

where COST(ALTERNATE) and COST(OIL) are determined by:

$$\text{EQ 5} \qquad \text{COST} = I \times \frac{\sum_{i=1}^{P} (1+k)^{-i}}{\sum_{i=1}^{N} (1+k)^{-i}} + \sum_{i=1}^{P} \frac{(OM_i + FL_i)(1-t_i)}{(1+k)^i}$$

Capital investment (I) is calculated with Equation 3 (paragraph (b)(3) of this section).

(3) The terms in Equation 5 are the same as those in Equation 2 with the addition of P, the length of the proposed temporary exemption in years. (See paragraph (b)(4) of this section for other terms.)

(4) The step-by-step procedure that follows shows the comparisons which must be made.

(i) Using Equation 5, compute the cost of using an alternate fuel (COST(ALTERNATE)) assuming the length of the proposed exemption is one year.

(ii) Likewise, compute the cost of using imported petroleum or natural gas (COST(OIL)) assuming the length of the proposed exemption is one year.

(iii) Compute the difference (DELTA) between COST (ALTERNATE) and COST (OIL) using Equation 4.

(iv) Repeat the calculations made in (i), (ii), and (iii) above, assuming the length of the proposed exemption is two years, three years, four years, and so on, up through the period of the proposed exemption.

(v) A petitioner is eligible for a temporary exemption for the period beginning at the start of the first year of operation and terminating at the beginning of the first year in which a DELTA is zero or less.

(d) *Information on parameters used in the calculations.* (1) All estimated expenditures, except fuel, shall be expressed in real terms (unadjusted for inflation) by using the prices in effect at the time the petition is submitted. Instructions for fuel price calculations are contained in appendix II.

(2) Capital investment yearly cash outlays (I_i) must include all items that are capital investments for Federal income tax purposes. All purchased equipment that has a useful life greater than one year, capitalized engineering costs, land, construction, environmental offsets, fuel inventory, transmission facilities, piping, etc., that are necessary for the operation of the unit must be included. However, an item must only be included if a cash outlay is required after the decision has been made to build the unit; sunk costs must not be included (*e.g.*, if the firm owns the land, its purchase price may not be included).

NOTE: The guidelines for the fuel inventory for powerplants not using natural gas shall be: (a) All powerplants with only steam driven turbines—78 days, (b) all powerplants with only combustion turbines—142 days, (c) all powerplants with combined cycles—both steam driven turbines and combustion turbines—142 days. The guidelines for the fuel inventory for installations not using natural gas shall be the greater of: (1) 21 days fuel supply, or (2) sufficient fuel to fill sixty (60) percent of the storage volume. The guidelines for the fuel inventory for all facilities using natural gas shall be zero unless the gas supply is interruptible in which case an appropriate inventory of back-up fuel must be included. Other inventory levels may be used if they are more appropriate than these guidelines; however, the source or derivation of these levels must be discussed in the evidential summary.

(3)(i) The annual cash outlays for operations and maintenance expense (OM_i) and fuel expense (FL_i) for a powerplant may be computed by one of the following three methods; however, the one chosen must be consistently applied throughout the analysis.

(A) Assume the energy produced by the powerplant equals seventy (70) percent of design capacity times 8760 hours for each year during the life of the powerplant, and compute cash outlays for operations, maintenance, and fuel expenses for the powerplant.

(B) *Economically dispatch the new powerplant.* The cash outlays for operations, maintenance, and fuel expenses of all powerplants being dispatched (where oil and natural gas are priced according to the procedures of appendix II[1]) are the corresponding expenses for the purpose of the cost calculation. The dispatch analysis area must be that area with which the firm currently dispatches, anticipates dispatching, and will be interconnected. It must also include all anticipated exchanges of energy with other utilities or powerpools. The outlays for operations, maintenance, and fuel may also be estimated using a methodology that incorporates the benefits of economically dispatching units and provides consistent treatment in the alternate fuel and oil or natural gas cases being compared.

(C) Use a dispatch analysis to project the energy produced by the powerplant for a representative (not atypical) year of operation when consuming an alternate fuel. Compute the cash outlays for operations, maintenance, and fuel expenses for the powerplant based upon the level of energy production estimated for the representative year. The dispatch analysis and fuel expenses for the cost calculation must include oil and natural gas priced according to the procedures of appendix II.[1]

(ii) When computing the annual cash outlays for operations and maintenance expense (OM_i) and fuel expense (FL_i) for an installation, specify the firing rates and the length of time each firing rate will be maintained.

(4) The discount rate (k) for analyses is 2.9 percent or that which is computed as specified in appendix I. The method of computing the inflation index (IX) is shown in appendix II to part 504. OFE will modify these specified rates from time to time as required by changed conditions after public notice and an opportunity to comment. However, the relevant set of specified rates for a specific petition for exemption will be the set in effect at the time the petition is submitted or the set in effect at the time a decision is rendered, whichever set is more favorable to the petitioner.

(5)(i) The guidelines for the useful life (N) of all powerplants except nuclear will be thirty-five (35) years. The guidelines for the useful life of a nuclear powerplant will be forty (40) years. The guidelines for the useful life of major fuel burning installations will be forty (40) years. Other useful life projections may be used if they are more appropriate than these guidelines; however, the source or derivation of these projections must be contained in the evidential summary. The summary should include a discussion of engineering, economic historical or other evidence.

(ii) If the units being compared have different useful lives, the petitioner will have to modify his calculation so that the two cash flows being compared have the length of the shorter useful life. To do this, (A) use the shorter of the two useful lives in Equations 2 and 5 for both units, and (B) multiply capital investment (I) of the unit with the longer life (computed with Equation 3) by the following adjustment factor (A):

$$\text{EQ 6} \qquad A = \frac{\sum_{i=1}^{R} (1+k)^{-i}}{\sum_{i=1}^{Q} (1+k)^{-i}}$$

where:

R=The useful life of the facility with the longer life.

Q=The useful life of the facility with the shorter life.

k=The discount rate (see paragraph (d)(4) above).

(6) All Federal investment tax credits (ITC_i) and depreciation (PR_i) values are those used for Federal income tax purposes and must be applied consistently throughout the analysis and in a manner consistent with the Federal tax

laws. All investment tax credits allowed under Federal tax law must be reflected in the computations. The petitioner must use the method of depreciation which results in the greatest present value of the cash flow due to the tax and depreciation effect. The marginal income tax rate (t_i) is the firm's anticipated marginal Federal income tax rate in year i. The relevant investment tax credits, depreciation methodology, and marginal Federal income tax rates for a specific exemption petition will be those prescribed by Federal law in effect (or those tax parameters which are known with certainty will be in effect) at the time a decision is rendered. (However, if an investment tax credit expires in a certain year under the law which is in effect at the time the petition is submitted, the petitioner must assume that it will in fact expire in that year.)

(7) If powerplants are being compared, the design capacities or the maximum sustained energy per unit of time that could be produced must be the same. If installations are being compared, the maximum sustained energy per unit of time that could be produced must be the same.

(8) All estimated cash outlays must be computed in accordance with generally accepted accounting principles consistently applied.

(9) The scope of the estimates of relevant costs (as discussed above) of units being compared must be the same.

(10) All allowances for uncertainty and risk in the cost estimates must be explicit.

(11) All cash outlays must be net of any government subsidies or grants.

(e) *Evidence in support of the cost calculation.* Petitioners for an exemption which requires the use of the cost calculation shall certify that the cost of using alternate fuel substantially exceeds the cost of using oil as primary energy source as calculated in this section. A brief summary of the petitioner's supporting calculations and estimates shall be submitted with the certification. The summary should include the following:

(1) Cash outlays, Investment tax credits, depreciation methodologies, and anticipated salvage for capital investments including a description of all major construction and equipment;

(2) Annual cash outlays for operations and maintenance expenses including the formulas used to compute them; and

(3) Annual cash outlays for delivered fuel expenses including the formulas used to compute them.

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§ 503.7 State approval—general requirement for new powerplants.

(a) Where approvals by the appropriate State regulatory authority are required prior to the construction or use of a new powerplant, a petition for an exemption for consideration by OFE may be submitted to OFE prior to obtaining such approvals from the State regulatory authority.

(b) An exemption granted for a powerplant shall not become effective until an adequate demonstration has been made to OFE that all applicable approvals required by the State regulatory authorities have been obtained.

§ 503.8 No alternate power supply—general requirement for certain exemptions for new powerplants.

(a) *Application.* To qualify for an exemption, except in the case of an exemption for cogeneration units, section 213(c) of the Act requires a demonstration that, despite reasonable good faith efforts, there is no alternative supply of electric power available within a reasonable distance at a reasonable cost without impairing short-run or long-run reliability of service. If a petitioner is unable to demonstrate that there is no alternate supply during the first year of operation, OFE will conclude that the absence of the proposed powerplant will not impair short-term reliability of service, and as a result will not grant the exemption. Such action would not impair long-term reliability of service, since a petition may be submitted for a powerplant that would begin operation in a subsequent year.

(b) *Criteria.* To meet the demonstration required under paragraph (a) of this section, a petitioner must certify that: